1.0 PURPOSE AND NEED FOR ACTION

1.1 INTRODUCTION

The Bureau of Reclamation and the New Mexico Interstate Stream Commission (ISC) seek to implement part of the Reasonable and Prudent Alternative (RPA) in the March 2003 U.S. Fish and Wildlife Service Biological Opinion for Reclamation's Water and River Maintenance Operations, the U.S. Army Corps of Engineers' (USACE) Flood Control Operations, and Related Non-Federal Actions on the Middle Rio Grande, New Mexico, 2003 (U.S. Fish and Wildlife Service [USFWS] 2003) and to address priority habitat restoration goals of the Middle Rio Grande Endangered Species Act (ESA) Collaborative Program (Collaborative Program). Reclamation and the ISC are proposing to implement river restoration activities for the benefit of the federally listed Rio Grande silvery minnow (RGSM), specifically activities to improve adult and juvenile over-wintering habitat and RGSM egg retention and rearing habitat within the Albuquerque Reach of the Rio Grande. Restoring the riverine habitats that support the RGSM is considered to be an essential element for recovering the species (Federal Register [FR] 1993).

Changes in riverine ecosystem processes and habitats have been linked to declines in RGSM, the last remaining member of a guild of small, pelagic spawning minnows native to the Rio Grande (Sublette et al. 1990; Bestgen and Platania 1991). Restoring specific riverine habitats that support the RGSM in river reaches where flow is more assured is a priority for the Program (Collaborative Program Request for Proposals, October 2004).

This project, termed the Middle Rio Grande Riverine Habitat Restoration Project (Project), is jointly led by Reclamation and ISC and proposes to apply several habitat restoration techniques in three subreach locations of the river in the Albuquerque Reach to create and improve habitat for RGSM. The Project is primarily funded by the State of New Mexico with partial funding by the Collaborative Program, with additional funding from other federal and non-federal sources. This Environmental Assessment (EA) has been conducted to evaluate the impacts of these riverine habitat restoration techniques and projects on other resources and their relationship to other projects and undertakings in compliance with the National Environmental Policy Act (NEPA) (42 U.S.C. 4331-4335).

1.2 PROPOSED ACTION

The Proposed Action involves the design and implementation of various habitat restoration/rehabilitation techniques to restore aquatic habitat for the benefit of the RGSM within the river in the Middle Rio Grande (MRG), Albuquerque Reach (Figure 1.1). The proposed rehabilitation and restoration would occur within the river floodway at three locations each approximately 1.5 miles long: the North Diversion Channel, the Interstate 40 to Central Avenue– area, and the South Diversion Channel (Figure 1.2). Projects at specific sites on vegetated islands, bars, and riverbanks would be implemented to test the efficacy of specific techniques (Figure 1.3 – 1.5) (Table 1.1). Techniques would be implemented on islands to evaluate the river's ability to naturally mobilize sediments and create RGSM habitat under a variety of flow conditions.

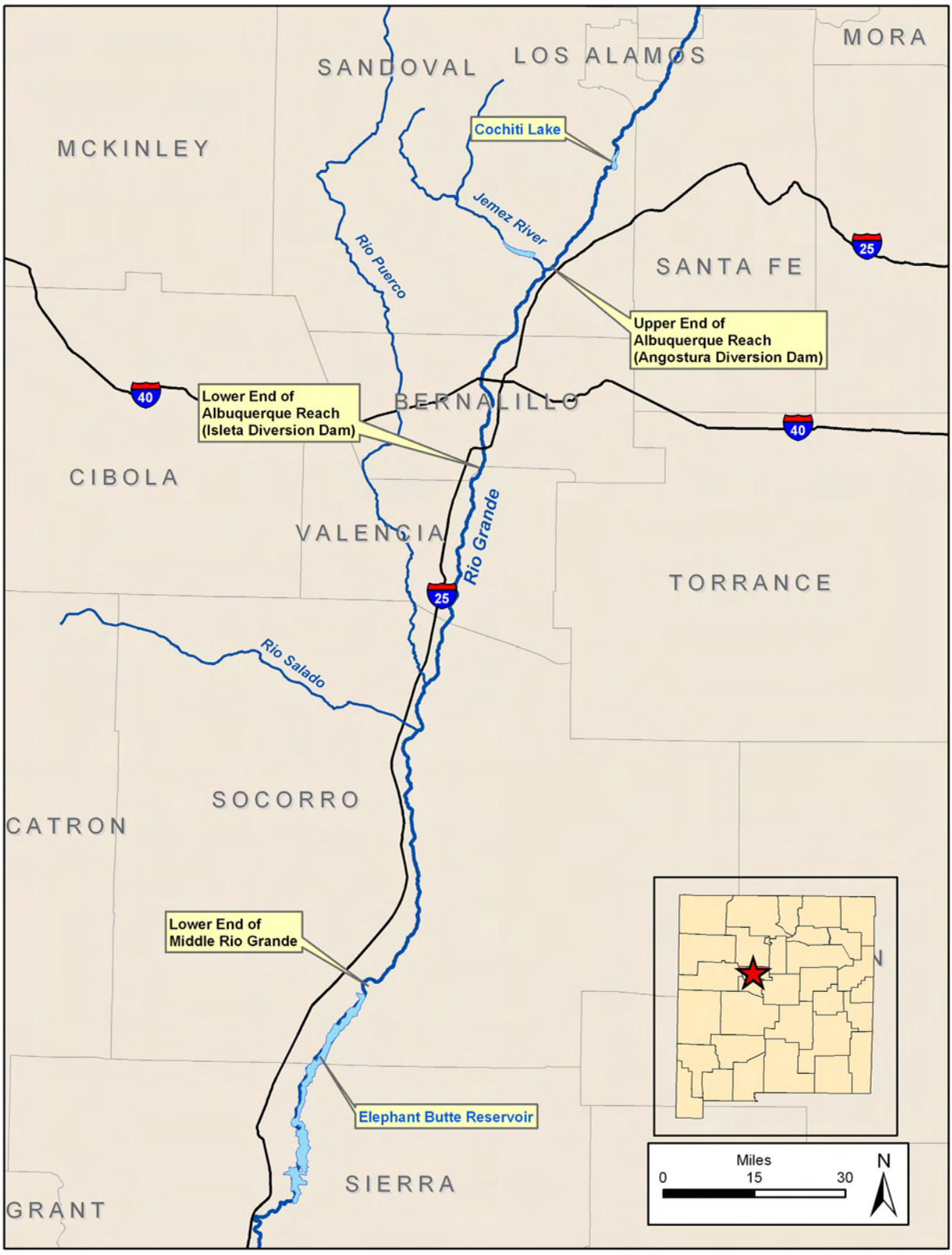

Figure 1.1. Project location map.

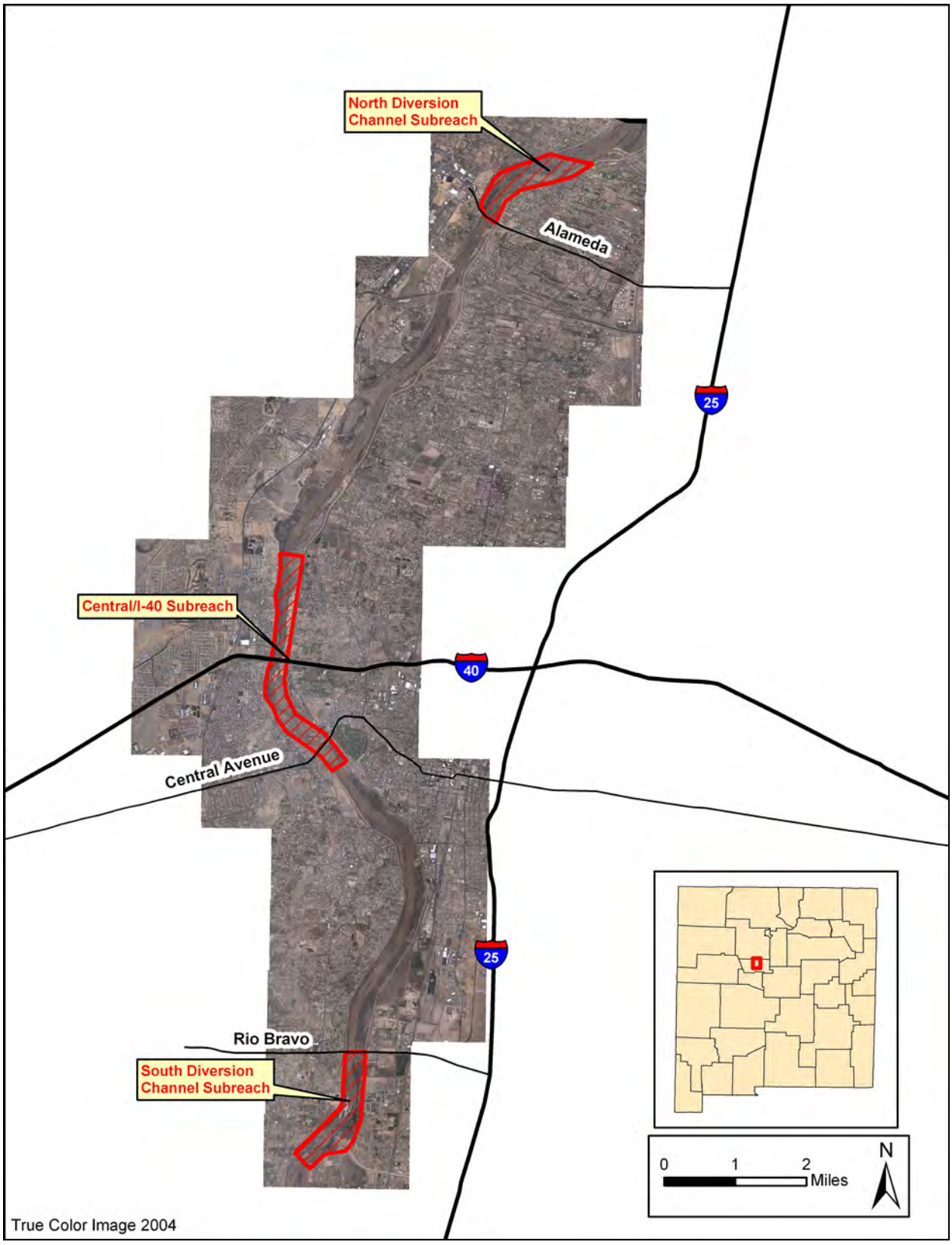

Figure 1.2. Proposed riverine habitat restoration subreaches.

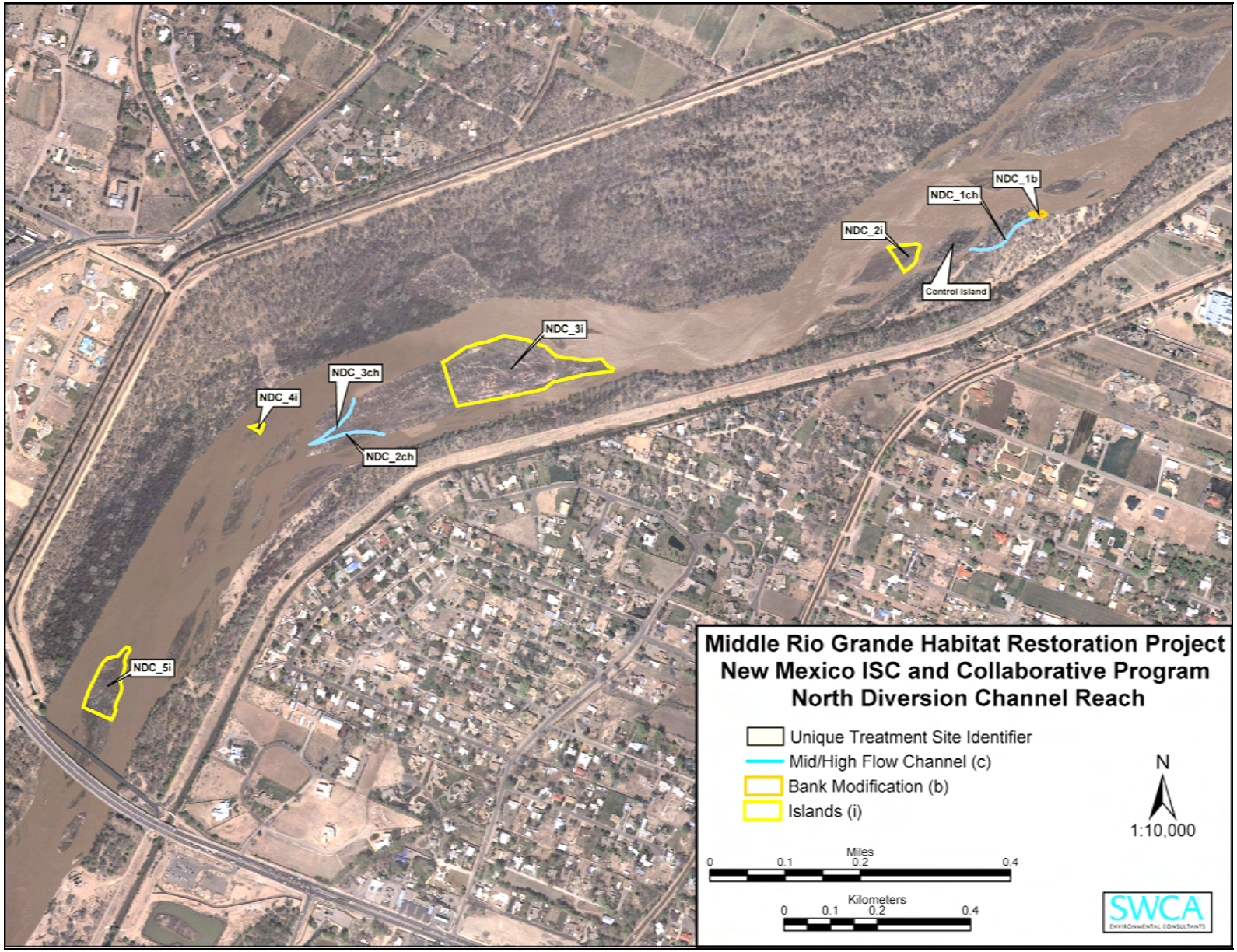

Figure 1.3. Alameda to NDC subreach restoration locations.

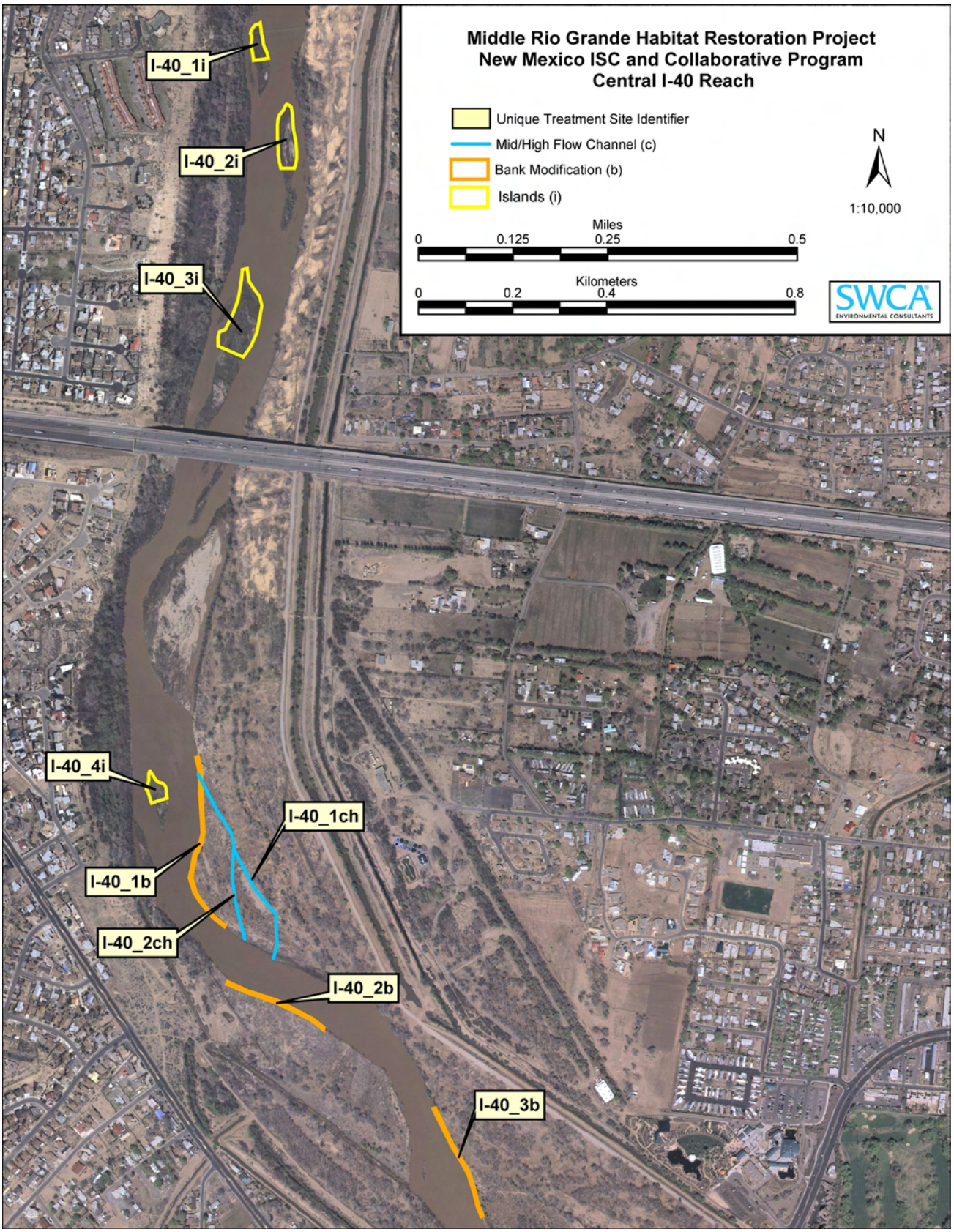

Figure 1.4. I-40 to Central subreach restoration locations.

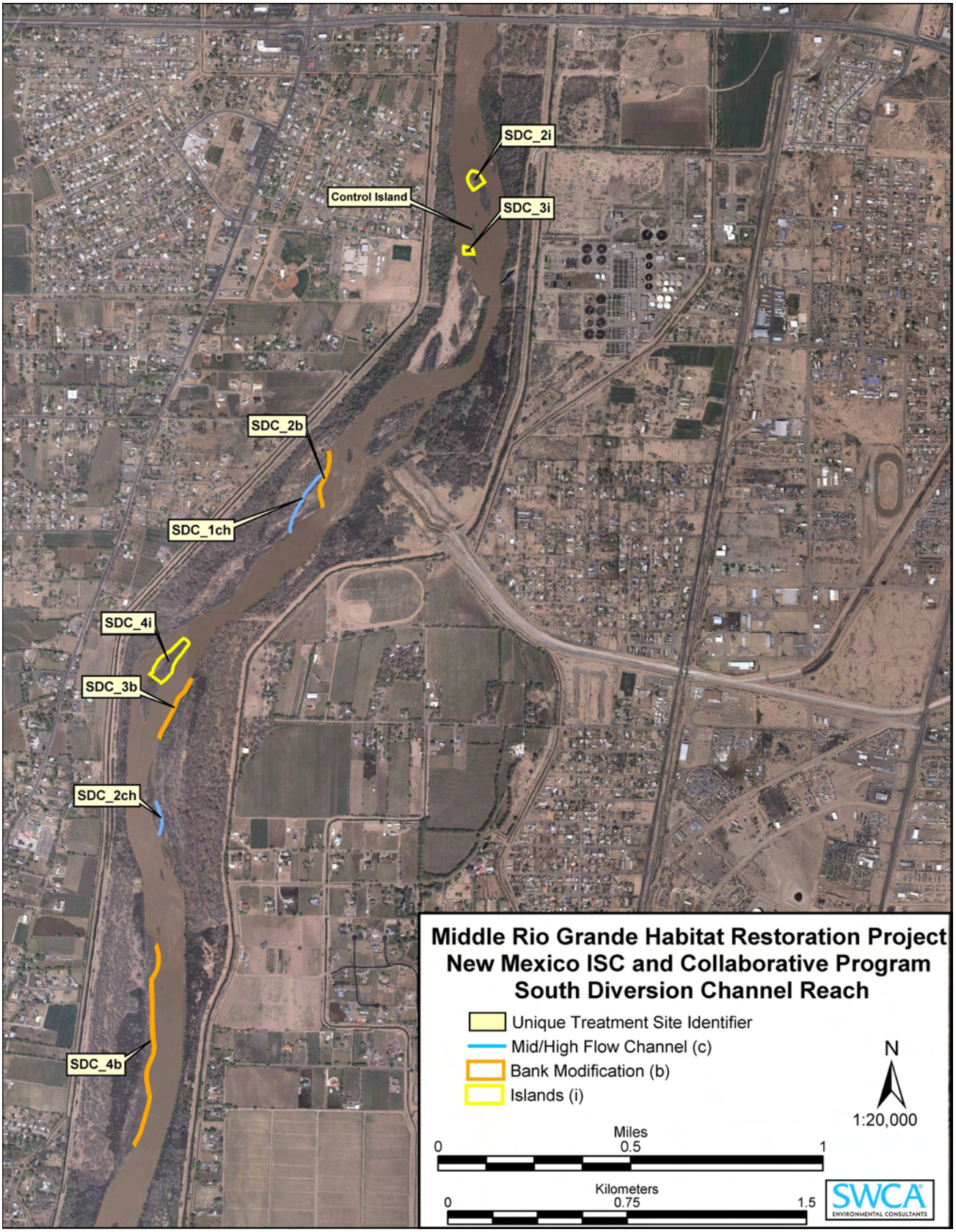

Figure 1.5. Rio Bravo to SDC subreach restoration locations.

Table 1.1. Proposed Restoration Techniques, Estimated Costs, and Number of Sites

Restoration Technique	Proposed Phase I Sites (2005-2006)	Funding Source for Phase I	Phase I Acres Treated (Approx.)	Maximum Acres Treated (2005-2009)	Phase I Locations and Costs		
					North Diversion Channel	I-40/ Central	South Diversion Channel
Vegetated Island Modification and Evaluation	11 islands	State of NM and Collaborative Program	19	250	Yes	Yes	Yes
Bar Habitat Modification	1 bar	Bureau of Reclamation	12	64	No	Yes	No
Large Woody Debris	Multiple sites	N/A	N/A	N/A	Yes	Yes	Yes
Bank Scouring and Scalloping	8 sites	State of NM	3.5	6	Yes	Yes	Yes
Ephemeral Channels	7 sites	State of NM	2	20	Yes	Yes	Yes
State of NM Component:					$486,000	$250,000	$328,000
Reclamation Component:					None	$98,000	None
MRG ESA Collaborative Program Component:					$153,000	None	$119,000
TOTAL PHASE I ESTIMATED COSTS:					$639,000	$348,000	$447,000

Bar modification is intended to create low-velocity habitat for RGSM. A number of bank rehabilitation techniques are also proposed, designed to accelerate natural bank erosion processes.

Work would take place over a four-year period, from March 2005 through March 2009 with Phase I occurring during 2005 and 2006. Approximately 37 acres would be treated during Phase I. Phase I implementation would occur on islands and bars and banks. As the project progresses, implementation would continue on selected islands, bars, and banks with the number of treated acres increasing to 350 acres. Currently, federal funding for Phase I from the 2004 and 2005 funding from the Collaborative Program is $272,000; federal funding from Reclamation is $98,000, and funding from the State of New Mexico, Water Trust Board and ISC is approximately $1,064,000.

1.3 PURPOSE AND NEED

The purpose of the proposed action is to develop, construct, and evaluate egg retention, larval rearing, young of year, and over-wintering habitat for the RGSM utilizing various techniques at several locations within the Albuquerque Reach of the river, and to determine if these techniques can improve habitat suitability for the four critical life stages of the RGSM: egg, larvae, juvenile, and adult. The Project will also evaluate the benefit of each technique in contributing to the large-scale goals for suitable habitat development for the RGSM in the Albuquerque Reach of the Middle Rio Grande.

The Proposed Action is needed to satisfy federal requirements under the Biological Opinion (2003 MRG BO) for Reclamation's Water and River Maintenance Operations, the USACE's Flood Control Operations, and Related Non-Federal Actions on the Middle Rio Grande, New Mexico, 2003 (U.S. Fish and Wildlife Service [USFWS] 2003). The 2003 MRG BO requires the funding and collaborative execution of habitat restoration projects on the Middle Rio Grande that will improve survival of all life stages of the endangered RGSM, as specified in RPA element S:

> In consultation with the [U.S. Fish and Wildlife] Service and appropriate Pueblos and in coordination with parties to the consultation, action agencies shall conduct habitat/ecosystem restoration projects in the Middle Rio Grande to increase backwaters and oxbows, widen the river channel, and/or lower river banks to produce shallow water habitats, overbank flooding, and regeneration stands of willows and cottonwood to benefit the silvery minnow, the flycatcher, or their habitats. Projects should be examined for depletions. It is the Service's understanding that the objective of the action agencies and parties to the consultation is to develop projects that are depletion neutral. By 2013, additional restoration totaling 1,600 acres (648 hectares) will be completed in the action area. In the short term (5 years or less), the emphasis for silvery minnow habitat restoration projects shall be placed on river reaches north of the San Acacia Diversion Dam. Projects should result in the restoration/creation of blocks of habitat 24 hectares (60 acres) or larger [USFWS 2003:95–96].

1.4 ISSUES

Ecological Values

The Rio Grande floodplain, including the riparian corridor (Bosque) and river channel, is highly valued by the residents of Albuquerque and New Mexico for its opportunities for natural beauty, the recreational value of the natural trails, the importance of the area as a refuge for birds and other wildlife, and the presence of rare and protected species. The Project area is part of the Rio Grande Valley State Park (RGVSP), which is managed cooperatively by the City of Albuquerque Open Space Division and the Middle Rio Grande Conservancy District (MRGCD). The 4,300-acre park extends from Sandia Pueblo in the north through Albuquerque and south to Isleta Pueblo. Conservation of the Park's aesthetic, recreational, and ecological values is a high priority for the community of Albuquerque. As a result, actions within the Rio Grande and its floodplain can be controversial.

Economic Commitments for Endangered Species Recovery

The Project or elements of the project would be funded partially by the signatories of the Collaborative Program, a multi-agency body of signatories working to meet the terms of a comprehensive BO covering the RGSM and other federally endangered species in the Middle Rio Grande (USFWS 2003). Additional funding will be provided by the State of New Mexico as part of the local match to the Program. Since the inception of the Collaborative Program, the federal government, through Reclamation, has been the source of funding for numerous projects. The 2003 MRG BO requires the funding and collaborative execution of habitat restoration projects to improve survival of all life stages of the RGSM and other endangered species and aid in their recovery. The execution of the BO involves commitments of substantial economic resources by the signatories of the MRG Collaborative Program Memorandum of Agreement (MOA). NEPA disclosure and public comment on these commitments has not yet taken place. A Notice of Intent to file a Draft Environmental Impact Statement appeared in June 2003 (FR 2003a). In the absence of this NEPA document or a Record of Decision to tier from, this EA will not be able to fully evaluate economic consequences of the Project within the context of the entire economic commitment proposed for endangered species recovery. However, the funding spent toward habitat restoration would assist in avoiding jeopardy for the existence of the RGSM and contribute to the recovery of this endangered species.

Net Water Depletion

Water quantity and water quality are of great concern for all river systems in the arid Southwest, where surface water availability is limited and its downstream delivery is vital to other communities. The Rio Grande Compact limits the amount of water that can be depleted in the Middle Rio Grande (Rio Grande Compact 1939). Any increase in net depletions will jeopardize the ability of the State of New Mexico to meet its downstream delivery obligations. Therefore, the ISC requires that new projects demonstrate that they will not result in any increases in net water depletions, or that any increases are offset by purchased or leased water rights. This project will evaluate changes in water depletions (water losses) and develop methods to ensure that depletions are not increased as a result of the action.